

**Draft Industrial Area
Sampling and Analysis Plan
Addendum #IA-04-07
IHSS Group 700-10, PAC 700-1101
(Laundry Tank Overflow-Building 732)**



November 2003

ADMIN RECORD

IA-A-001838

1/10

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Approval received from the Colorado Department of Public Health and Environment

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Approval letter is contained in the Administrative Record

November 2003

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ACRONYMS

DOE	U S Department of Energy
ER	Environmental Restoration
ER RSOP	Environmental Restoration RFCA Standard Operating Protocol
FY	Fiscal Year
HRR	Historic Release Report
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
PAC	Potential Area of Concern
PCOC	Potential Contaminant of Concern
RFCA	Rocky Flats Cleanup Agreement
RSOP	RFCA Standard Operating Protocol
SAP	Sampling and Analysis Plan
UBC	Under Building Contamination

1.0 INTRODUCTION

This Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) Addendum #IA-04-07 includes Individual Hazardous Substance Site (IHSS) Group-specific information, sampling locations, and potential contaminants of concern (PCOCs) for IHSS Group 700-10, which is proposed for characterization during Fiscal Year (FY) 04. This IASAP Addendum is a supplement to the IASAP (DOE 2001) and includes data and proposed sampling locations for Potential Area of Concern (PAC) 700-1101. This is the only IHSS, PAC, or Under Building Contamination (UBC) site in IHSS Group 700-10. The location of IHSS Group 700-10 is shown on Figure 1.

2.0 EXISTING IHSS, PAC, AND UBC INFORMATION

Existing information for the IHSS Group is available in Appendix C of the IASAP (DOE 2001), the Industrial Area Data Summary Report (DOE 2000), the Historical Release Reports (HRR) for the Rocky Flats Plant (DOE 1992-2003), and Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) (ER RSOP) Notification #04-07 (DOE 2003b). Process knowledge indicates that PAC 700-1101 may contain radionuclide contamination in the subsurface soil. Surface soil contamination is not suspected. There are no existing soil data within the limits of IHSS Group 700-10.

Table 1 presents PCOCs for IHSS Group 700-10.

Table 1
Potential Contaminants of Concern

IHSS Group	IHSS/PAC/UBC Site	PCOCs	Media	Sources	Sampling Type
700-10	PAC 700-1101	Radionuclides	Subsurface Soil	HRR (DOE 1992-2003) and Process knowledge (DOE 2003a)	Biased

3.0 SAMPLING

The proposed sampling and analysis specifications for IHSS Group 700-10 are listed, by sample location, in Table 2 and summarized in Table 3. The proposed sampling locations are shown in Figure 2. Biased subsurface soil samples will be collected from IHSS Group 700-10 at five locations. Four locations (CE44-022 through CE44-25) were positioned downgradient with respect to groundwater and the interior slope of the floor of

Table 2
Sampling Specifications for IHSS Group 700-10

IHSS Group	IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval (ft.)	Analyte	Onsite Laboratory Method	Offsite Laboratory Method	Comments*
700-10	PAC 700-1101, Building 732	CE44-022	2083613 822	750306 167	Subsurface Soil	12 5-14 5'	Radionuclides	HPGe	Alpha Spec	1 st Interval, at the slab/fill elevation
		CE44-022	2083613 822	750306 167	Subsurface Soil	14 5-16 5'	Radionuclides	HPGe	Alpha Spec	2 nd Interval, below slab/fill elevation
		CE44-023	2083613 735	750315 412	Subsurface Soil	12 5-14 5'	Radionuclides	HPGe	Alpha Spec	1 st Interval, at the slab/fill elevation
		CE44-023	2083613 735	750315 412	Subsurface Soil	14 5-16 5'	Radionuclides	HPGe	Alpha Spec	2 nd Interval, below slab/fill elevation
		CE44-024	2083613 648	750296 271	Subsurface Soil	12 5-14 5'	Radionuclides	HPGe	Alpha Spec	1 st Interval, at the slab/fill elevation
		CE44-024	2083613 648	750296 271	Subsurface Soil	14 5-16 5'	Radionuclides	HPGe	Alpha Spec	2 nd Interval, below slab/fill elevation
		CE44-025	2083606 313	750294 232	Subsurface Soil	12 5-14 5'	Radionuclides	HPGe	Alpha Spec	1 st Interval, at the slab/fill elevation
		CE44-025	2083606 313	750294 232	Subsurface Soil	14 5-16 5'	Radionuclides	HPGe	Alpha Spec	2 nd Interval, below slab/fill elevation
		CE44-026	2083606 270	750298 572	Subsurface Soil	0 0-0 5'	Radionuclides	HPGe	Alpha Spec	1 st Interval, to start below slab & fill
		CE44-026	2083606 270	750298 572	Subsurface Soil	0 5-2 5'	Radionuclides	HPGe	Alpha Spec	2 nd Interval, below slab/fill

*The bottom of the Building 732 slab is 12 7 feet below present ground surface Below that is a 1-foot thick interval of coarse gravel fill Undisturbed soil should be 13 7 feet below present ground surface

Building 732 The floor slopes down from west to east and from north to south towards the sump in the southeast corner of the floor The four locations outside the perimeter of the building will sample subsurface soil They will monitor for potential contamination pathways between the walls and floor of Building 732 The joints between walls were waterproofed at the time of construction and in the early 1990's additional sealing material was applied The building itself is constructed of reinforced-poured concrete without floor joints

Table 3
IHSS Group 700-10 Sampling Analysis Summary

Category	Total
Number of Sampling Locations	5
Number of Samples	10
Number of Radionuclide Analyses	10

The single location inside Building 732 (CE44-026) will evaluate potential contamination directly under the slab After characterization starts, the number and type of samples may change based on field conditions and/or sampling results Changes to sampling specifications will be considered in consultation with the regulatory agencies

Three types of sampling strategies are used to determine sampling locations statistical, biased, and geostatistical Statistical grids have computer-generated random start points and orientations The standard statistical grid size (i.e., the length between grid points) is 11 meters (36 feet) Because the grid spacing is greater than the dimensions of Building 732 at IHSS Group 700-10, statistical sampling will not be used Geostatistical samples supplement the statistical grid locations but will not be used at IHSS Group 700-10

Samples will be analyzed in accordance with the IASAP (DOE 2001) The onsite laboratory will be used to analyze for radionuclides

4.0 REFERENCES

DOE, 1992-2003, Historical Release Reports for the Rocky Flats Plant, Golden, Colorado

DOE, 2000, Industrial Area Data Summary Report, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, 2001, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June

DOE, 2003a, Waste Stream and Residue Identification and Characterization – Building 732, Version 7 0, January

DOE, 2003b, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation, FY04 Notification #04-07, IHSS Group 700-10, PAC 700-1101, November

Figure 1

**IHSS Group 700 10
PAC 700 1101**

General Location

KEY

IHSSs surrounding
PAC 700 1101

Demolished building

Standing building

Bond

FOUR

Paved road

Dirt road

T-2:1

trial

Fence

Railroad

Streams or

surface drainage



Animal	Feet
Elephant	180
Giraffe	120
Kangaroo	100
Kangaroo Rat	20

Scale 1 6000

State Plane Coordinate Projection

Colorado Central Zone
Datum NAD 27

U S Department of Energy
Rocky Flats Environmental Technology Site

Prepared for



KAISER • HILL
COMPANY

Prepared by _____

RADMS

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Figure 2
IHSS Group 700 10
PAC 700 1101
Proposed Sampling Locations

KEY

- Proposed Biased Sample Locations (Scenario #990)
- IHSS 000 162
- Demolished building
- Standing building
- Paved road
- Fence

Scale 1 50
 State Plane Coordinate Projection
 Colorado Central Zone
 Datum NAD 27

U S Department of Energy
 Rocky Flats Environmental Technology Site

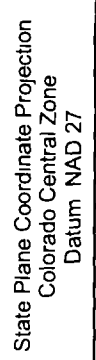
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